Reduce soil compaction by controlling areas of traffic that result in a Soil Tillage Intensity Rating (STIR) between 31 and 60; between 16 and 30; or 15 or less

Definition

Soil tillage Intensity Rating (STIR) is a calculation based on the location of cropland and the Crop Management System (type of tillage) that the producer uses on that land. It is an index used to evaluate the kind, severity and number of ground disturbing tillage passes on soil quality. Higher numbers indicate greater disturbance; lower numbers indicate less disturbance.

Soil compaction occurs when soil particles are pressed together, reducing the pore space between them. This increases the bulk density of the soil. Soil compaction occurs in response to pressure exerted by field machinery or animals. The risk of compaction is greatest when soils are wet.

Purpose

The less tillage that is done, the less potential there is for soil compaction. Compaction restricts rooting depth, which reduces the uptake of water and nutrients by plants. It decreases pore size, increases the proportion of water-filled pore space at field moisture, and decreases soil temperature. This affects the activity of soil organisms. Compaction also decreases infiltration and thus increases runoff and the hazard of water erosion.

Where Used

This enhancement is used on cropland fields.

Documentation Required

The STIR ratings from RUSLE2 for each field.

Payment Rate

A payment of per acre for a STIR between 31 and 60; per acre for a STIR between 16 and 30; and for a STIR of 15 or less.

Signature:_____ **Date:** _____